

selected from the group consisting of a xenon lamp, a krypton lamp, and a halogen lamp.

129.(New) A multi-chamber system according to claim 95 wherein said insulating film comprises a gate insulating film.

130.(New) A multi-chamber system according to claim 101 wherein said lamp is one selected from the group consisting of a xenon lamp, a krypton lamp, and a halogen lamp.

131.(New) A multi-chamber system according to claim 101 wherein said insulating film comprises a gate insulating film.--

REMARKS

Applicants wish to thank the Examiner for the very thorough consideration given the present application. The Examiner's Office Action of **September 26, 2000** has been received and its contents carefully noted. Filed concurrently herewith is a *Request for a One (1) Month Extension of Time* that extends the shortened statutory period for response to **January 26, 2001**. Accordingly, Applicants respectfully submits that this response is timely filed.

Claims 80-123 were pending in the present application prior to the aforementioned preliminary amendment. By the above actions, claims 80, 83, 86, 89, 92, 95, 98, 101, 104-109, 111, 112, 114-119, 121 and 122 have been amended and new claims 124-131 have been added to recite additional protection to which Applicants are entitled. Accordingly, claims 80-131 are now pending herein, and, for the reasons set forth in detail below, are believed to be in condition for allowance.

The Office Action rejects claims 105, 107, 109, 112, 115, 117, 119 and 122 under 35 USC §112, second paragraph as being indefinite. In response thereto, the rejected claims have been amended to overcome the rejection. In particular, the term "linear" has been amended to read --rectangular-- as suggested by the Examiner. Accordingly, Applicants respectfully request withdrawal of the aforementioned rejection.

The Office Action rejects claims 80, 81, 83-84, 86-87 and 89-90 under 35 U.S.C. §102(e) as being clearly anticipated by *Zhang et al.* (U.S. Patent 5,352,291). This ground of rejection is

respectfully traversed for the following reasons and favorable consideration is requested in view thereof.

The claimed invention is directed to a multi-chamber system. In particular, the multi-chamber system of the claimed invention includes, *inter alia*, a chamber for irradiating a laser light to a semiconductor film formed over a substrate under an oxidizing atmosphere, a chamber for depositing a gate insulating film on a semiconductor film, and a chamber for taking the substrate out of the multi-chamber system. In accordance with the claimed invention, the laser light has a rectangular shape on an irradiated surface and the laser may comprise an excimer laser or a YAG laser.

It shall be noted that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *In re Verdegaaal Bros.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). For the reasons that follow, it is respectfully submitted that **Zhang '291** fails to disclose each and every claimed feature of the present invention.

While **Zhang '291** appears to disclose a chamber for depositing an insulating film (Col. 7, lines 15-17), **Zhang '291**, however, fails to expressly teach a chamber for irradiating a laser light to a semiconductor film formed over a substrate under an oxidizing atmosphere, a chamber for depositing a gate insulating film, wherein the laser light has a rectangular shape or wherein the laser comprises an excimer laser or a YAG laser, as set forth in the claimed invention. Moreover, Applicants respectfully request evidence supporting the contention in the Office Action that **Zhang '291** expressly teaches a chamber for depositing a gate insulating film. Since **Zhang '291** fails to expressly teach or inherently describe each and every feature of the claimed invention, Applicants respectfully requests that the §102 rejection of the pending claims be reconsidered and withdrawn in view thereof.

The Office Action also rejects claims 92-103, 110 and 113-123 under U.S.C. §103(a) as being unpatentable over **Zhang '291** in view of *Begin et al.* (U.S. Patent 5,310,410) and claims 82, 85, 88 and 91 as being unpatentable over **Zhang '291**. These grounds of rejection are respectfully traversed for the following reasons and favorable consideration is requested in view thereof.

It should be noted that three criteria must be met to establish a *prima facie* case of obviousness. *M.P.E.P.* §2143. First, there must be some teaching, suggestion, or motivation to


combine or modify the teachings of the prior art to produce the claimed invention, found either in the references themselves or in the knowledge generally available to a skilled artisan. *In re Fine*, 837 F.2d 1071, 5 USPQ.2d 1596 (Fed. Cir. 1988). Second, there must be a reasonable expectation of success. *In re Rhinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976). Third, the prior art must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Applicants respectfully contend that the Office Action has failed to set forth a *prima facie* case of obviousness and that the claimed invention is patentably distinct over the prior art. More particularly, Applicants respectfully submit that the proposed *Zhang* '291 modification fails to expressly teach or implicitly suggest a chamber for irradiating a laser light to a semiconductor film formed over a substrate under an oxidizing atmosphere, a chamber for depositing a gate insulating film, wherein the laser light has a rectangular shape, or wherein the laser comprises an excimer laser or a YAG laser, as set forth in the claimed invention. Since the proposed *Zhang* '291 modification fails to teach, disclose or reasonably suggest each and every feature of the claimed invention, Applicants respectfully requests that the §103 rejection of the pending claims be reconsidered and withdrawn in view thereof.

For the reasons expressed above, it is respectfully submitted that claims 80-131 are in proper condition for allowance. If the Examiner feels that any further discussions would be beneficial in this matter, it is requested that the undersigned be contacted.

Examination on the merits is respectfully requested.

Respectfully submitted,


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Marked-up copy of amended claims.

80.(Amended) A multi-chamber system comprising:

a first chamber for irradiating a laser light to a semiconductor film formed over a substrate under an oxidizing atmosphere;

a second chamber for depositing a gate insulating film on said semiconductor film; and

a third chamber capable of taking said substrate out of said multi-chamber system after depositing said gate insulating film.

83.(Amended) A multi-chamber system comprising:

a first chamber for irradiating [laser] a lamp light to a semiconductor film formed over a substrate;

a second chamber for performing at least one heating process;

a third chamber for depositing an [gate] insulating film [on said semiconductor film]; and

a fourth chamber capable of taking said substrate out of said multi-chamber system [after depositing said gate insulating film].

86.(Amended) A multi-chamber system comprising:

a first chamber for irradiating a laser light to a semiconductor film formed over a substrate under an oxidizing atmosphere;

a second chamber for depositing a gate insulating film on said semiconductor film;

a third chamber capable of taking said substrate out of said multi-chamber system after depositing said gate insulating film; and

a means for transporting said substrate among said first, second and third chambers.

89.(Amended) A multi-chamber system comprising:

a first chamber for irradiating [laser] a lamp light to a semiconductor film formed over a substrate;

a second chamber for performing at least one heating process;

a third chamber for depositing an [gate] insulating film [on said semiconductor film];

a fourth chamber capable of taking said substrate out of said multi-chamber system [after

depositing said gate insulating film];

a means for transporting said substrate among said first, second, third and fourth chambers.

92.(Amended) A multi-chamber system comprising:

a first chamber for irradiating a laser light to a semiconductor film formed over a substrate
under an oxidizing atmosphere;

a second chamber for depositing a gate insulating film; and

a third chamber for putting said substrate in said multi-chamber system and for taking said substrate out of said multi-chamber system,

wherein said multi-chamber system is capable of depositing said gate insulating film on said semiconductor film irradiated with said laser light.

95.(Amended) A multi-chamber system comprising:

a first chamber for irradiating [laser] a lamp light to a semiconductor film formed over a substrate;

a second chamber for performing at least one heating process;

a third chamber for depositing an [gate] insulating film; and

a fourth chamber for putting said substrate in said multi-chamber system and for taking said substrate out of said multi-chamber system[,

wherein said multi-chamber system is capable of depositing said gate insulating film on said semiconductor film irradiated with said laser light].

98.(Amended) A multi-chamber system comprising:

a first chamber for irradiating a laser light to a semiconductor film formed over a substrate
under an oxidizing atmosphere;

a second chamber for depositing a gate insulating film;

a third chamber for putting said substrate in said multi-chamber system and for taking said substrate out of said multi-chamber system; and

a means for transporting said substrate among said first, second and third chambers,

wherein said multi-chamber system is capable of depositing said gate insulating film on said

semiconductor film irradiated with said laser light.

101.(Amended) A multi-chamber system comprising:

a first chamber for irradiating [laser] a lamp light to a semiconductor film formed over a substrate;

a second chamber for performing at least one heating process;

a third chamber for depositing an [gate] insulating film;

a fourth chamber for putting said substrate in said multi-chamber system and for taking said substrate out of said multi-chamber system; and

a means for transporting said substrate among said first, second, third and fourth chambers[, wherein said multi-chamber system is capable of depositing said gate insulating film on said semiconductor film irradiated with said laser light].

104.(Amended) A multi-chamber system according to claim 80 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

105.(Amended) A multi-chamber system according to claim 80 wherein said laser light has a [linear] rectangular shape on an irradiated surface.

106.(Amended) A multi-chamber system according to claim 83 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

107.(Amended) A multi-chamber system according to claim 83 wherein said laser light has a [linear] rectangular shape on an irradiated surface.

108.(Amended) A multi-chamber system according to claim 86 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

109.(Amended) A multi-chamber system according to claim 86 wherein said laser light has a [linear] rectangular shape on an irradiated surface.

111.(Amended) A multi-chamber system according to claim 89 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

112.(Amended) A multi-chamber system according to claim 89 wherein said laser light has a [linear] rectangular shape on an irradiated surface.

114.(Amended) A multi-chamber system according to claim 92 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

115.(Amended) A multi-chamber system according to claim 92 wherein said laser light has a [linear] rectangular shape on an irradiated surface.

116.(Amended) A multi-chamber system according to claim 95 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

117.(Amended) A multi-chamber system according to claim 95 wherein said laser light has a [linear] rectangular shape on an irradiated surface.

118.(Amended) A multi-chamber system according to claim 98 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

119.(Amended) A multi-chamber system according to claim 98 wherein said laser light has a [linear] rectangular shape on an irradiated surface.

121.(Amended) A multi-chamber system according to claim 101 wherein said laser [light] comprises an excimer laser [light] or a YAG laser.

122.(Amended) A multi-chamber system according to claim 101 wherein said laser light has a [linear] rectangular shape on an irradiated surface.